

pPR

Human progesterone receptor (PR) is expressed in two protein forms, full length PR-B and truncated PR-A lacking the first 164 amino acids of the N-terminal domain. The two PR proteins have similar steroid and DNA binding activities but differ in their ability to transactivate target genes. The PR-A isoform has unique repressor activity. PR is phosphorylated on multiple serine residues located in the N-terminal domain and in the hinge region between the DNA and steroid binding domains (1). Different kinases are involved in phosphorylating PR including cyclin A/Cdk-2, casein kinase II and MAP kinases (2,3). Groups of sites are either basally phosphorylated in the absence of progesterone and undergo a rapid (5-10min) increase upon binding hormone, while other sites are truly hormone-dependent and require approximately 2hr of hormone treatment for maximal phosphorylation (3). The activity of PR can be regulated by phosphorylation. Individual sites such as Ser 190 enhance transcriptional activity, while others such as Ser 294 appear to be sites of convergence and regulation by cross-talk with other signaling pathways (4,5).

Monoclonal antibodies (Mabs) have been produced that recognize a basal hormone regulated phosphorylation site (Ser 190) and a hormone-dependent phosphorylation site (Ser 294) of

human PR. Both sites are located in the N-terminal domain common to PR-A and PR-B. Biochemical experiments have shown that each of the Mabs recognize the specific phosphorylated forms of PR and fail to interact with dephosphorylated PR at these sites. Additionally, the Mabs distinguish between phospho and dephospho receptors under various experimental conditions including Western blot, immunoprecipitation and within PR-DNA complexes detected by electrophoretic gel mobility shift assay (EMSA). Even though Ser294 and surrounding sequences are identical in the two forms of PR, this site is preferentially phosphorylated on PR-B suggesting that differential phosphorylation of Ser 294 is involved regulating the distinct activities of PR-A and PR-B (5).

References:

- 1) Knotts, T.A., Orkiszewski, R.S., Cook, R.G., Edwards, D.P., Weigel, N.L. *J. Biol. Chem.* 276:8475-8483, 2001.
- 2) Zhang, Y., Beck, C.A., Poletti, A., Edwards, D.P., Weigel, N.L. *Molecular Endocrinology* 9: 1029-1040, 1995.
- 3) Zhang, Y., Beck, C.A., Poletti, A., Clement, J.P., Prendergast, P., Edwards, D.P., Weigel, N.L. *Molecular Endocrinology* 11: 823-832, 1997.
- 4) Takimoto, G.S., Hovland, A.R., Tasset, D.M., Melville, M.Y., Tung, L., Horwitz, K.B. *J. Biol. Chem.* 271:13308-13316, 1996.
- 5) Clemm, D.L., Sherman, L., Boonyaratanakornkit, V., Schrader, W.T., Weigel, N.L., Edwards, D.P. *Molecular Endocrinology* 14: 52-65, 2000.

Anti-Phospho-Progesterone Receptor (Ser190) (clone 1154)

Research Applications

Immunoblotting:	4 µg per ml
Immunoprecipitation:	10 µg per sample
Supershift (EMSA):	recommended
Immunohistochemistry:	under evaluation

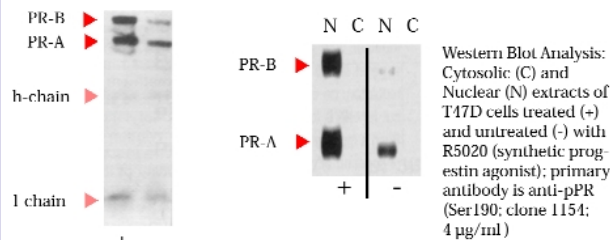
Product Description

Host / Ig Type:	mouse monoclonal IgG1
Purification:	protein G
Immunogen:	phosphopeptide; human sequence: amino acids 184-196 (pSer190)
Specificity:	detect phosphorylated PR at 115 kDa (B-isoform) and 90 kDa (A-isoform)
Reactivity:	human, other species in test
Liquid Carrier:	PBS, azide
Storage:	4°C
Stability:	1 year

Catalog Information

Catalog Number:	ABM-4202
Mass:	200 µg
Price:	\$295

Quality Control and Comparative Analyses



IP Analysis: 100 µg whole-cell extracts of T47D cells treated (+) and untreated (-) with R5020 (synthetic progesterin agonist) were IP'd with anti-pPR (Ser190; clone 1154) linked to a protein A-Sepharose-mouse IgG conjugate; subsequent WB analysis effected using Anti-PR-NT, clone 1294

Anti-Phospho-Progesterone Receptor (Ser294) (clone 608)

Research Applications

Immunoblotting:	10 µg per ml
Immunoprecipitation:	10 µg per sample
Supershift (EMSA):	recommended
Immunohistochemistry:	under evaluation

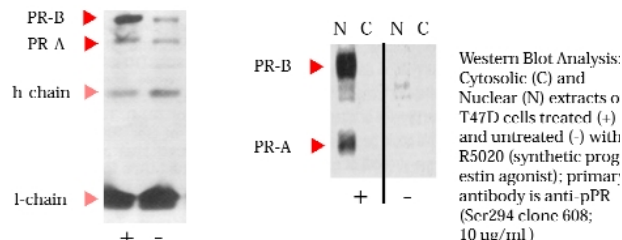
Product Description

Host / Ig Type:	mouse monoclonal IgG1
Purification:	protein G
Immunogen:	phosphopeptide; human sequence: amino acids 287-300 (pSer294)
Specificity:	detect phosphorylated PR predominantly at 115 kDa (B-isoform)
Reactivity:	human, other species in test
Liquid Carrier:	PBS, azide
Storage:	4°C
Stability:	1 year

Catalog Information

Catalog Number:	ABM-4203
Mass:	200 µg
Price:	\$295

Quality Control and Comparative Analyses



IP Analysis: 100 µg whole-cell extracts of T47D cells treated (+) and untreated (-) with R5020 (synthetic progesterin agonist) were IP'd with anti-pPR (Ser294; clone 608) linked to a protein A-Sepharose-mouse IgG conjugate; subsequent WB analysis effected using Anti-PR-NT, clone 1294